Methods on Treatment of Specific countries

See also Supplemental Material, Diagram 1. Note that the U.S. Geological Survey, our sole source of information for asbestos use, compiles data on asbestos use in 10-yr intervals from 1920-1960, in 5-yr intervals from 1970-1995, and annually from 1996-2003.

1. Countries which changed their names during 1920-2003: we use the newest name and integrate data into the country of the newest name.
   - Southern Rhodesia became Zimbabwe in 1980 (i.e, 1985 in USGS database).
   - Belgian Congo became Zaire in 1971 (i.e, 1975 in USGS database) and the Democratic Republic of the Congo [or Congo (Kinshasa)] in 1998 (i.e, 1998 in USGS database).
   - Netherlands East Indies and Dutch Indies became Indonesia after 1945 (i.e, 1950 in USGS database).

2. Belgium and Luxembourg
   - Belgium (2003 population 10.3 million) and Luxembourg (0.4 million) were

treated as a combined entity in USGS, so asbestos data is not apportioned.

- Belgium and Luxembourg ratified the ILO Asbestos Convention and banned asbestos use. Only Luxembourg reported mortality data to WHO during the relevant period for reporting mortality (2000-Feb 2009). Therefore, when we tabulated numbers in Table 1, we treated these two countries as a combined entity, which contributed to +1 in the numerator (countries reporting data to WHO) and +1 in the denominator (one of the N=28 high-income countries).
- Luxembourg did not have GDP per capita data in the Maddison database, so we use GDP per capita of Belgium to represent the two countries. The population was combined from the two countries.

3. Germany was divided into East and West Germany during 1949-1990 (i.e, 1950-1985 in USGS database) of the analyzed period, during which we combined all data into one entity, i.e., Germany.

4. Countries not existing currently
   - Former Soviet Union dissolved in 1991. USGS combined asbestos data of Russia and Kazakhstan to represent former Soviet Union. Accordingly, we

combined the population data of Russia and Kazakhstan to represent former Soviet Union.

- Former Czechoslovakia split into the Czech Republic and Slovakia in 1993. Accordingly, asbestos data were analyzed for Czechoslovakia before and up to 1990, and for Czech Republic and Slovakia, separately, since 1995.
- Former Yugoslavia disintegrated into five countries (See also Supplemental Material, Table 1) in 1992. Accordingly, asbestos data were analyzed for Former Yugoslavia before and up to 1990 and for the five countries, separately, since 1995. Serbia and Montenegro were treated as a combined entity in USGS, so asbestos data is not apportioned between them. In our analyses Serbia and Montenegro were treated as a combined entity (these two countries reported mortality data to WHO as one country; for ILO Asbestos Convention, these countries ratified separately).

5. Taiwan

The World Bank list of economies (July 2003) precludes Taiwan from its list with a footnote stating "Taiwan, China is also included in high income." We judged to categorize Taiwan into the unclassified group.

Supplemental Material, Table 1. List of countries included in the analyses

No	Group	Country	ISO ALPHA-3	Attribute (yes = marked with *, †, ‡, §)			
				1	2	3	4
1	High-income (A)	United Arab Emirates	ARE				
2		Australia	AUS		†	‡	§
3		Austria	AUT		†	‡	
4		Belgium / Luxembourg	BEL / LUX	*	†	‡	
5		Canada	CAN	*	†		§
6		Switzerland	CHE	*		‡	
7		Germany	DEU	*	†	‡	§
8		Denmark	DNK	*	†	‡	
9		Spain	ESP	*	†	‡	
10		Finland	FIN	*	†	‡	
11		France	FRA		†	‡	§
12		United Kingdom of Great Britain and Northern Ireland	GBR		†	‡	§
13		Greece	GRC		†	‡	
14		Hong Kong Special Administrative Region of China	HKG		†		
15		Ireland	IRL		†	‡	
16		Israel	ISR		†		
17		Italy	ITA		†	‡	§
18		Japan	JPN	*	†	‡	§
19		Republic of Korea	KOR	*	†	‡	
20		Kuwait	KWT			‡	
21		Netherlands	NLD	*	†	‡	
22		Norway	NOR	*	†	‡	
23		New Zealand	NZL		†		
24		Portugal	PRT	*	†	‡	
25		Singapore	SGP		†		
26		Slovenia	SVN	*	†	‡	
27		Sweden	SWE	*	†	‡	
28		United States of America	USA		†		§
29	Middle-income (B)	Albania	ALB		†		
30		Argentina	ARG		†	‡	
21		Armenia	ARM				
32		Bulgaria	BGR		†	‡	
33		Bosnia and Herzegovina	BIH	*			
34		Belarus	BLR				
35		Bolivia	BOL	*			
36		Brazil	BRA	*	†		§
37		Chile	CHL	*	†	‡	
38		China	CHN				§
39		Colombia	COL	*	†		
40		Costa Rica	CRI		†		
41		Cuba	CUB		†		
42		Czech Republic	CZE		†	‡	
43		Dominican Republic	DOM		†		
44		Algeria	DZA				§
45		Ecuador	ECU	*	†		
46		Egypt	EGY			‡	

47	Middle-income (B)	Estonia	EST		†	‡	
48		Gabon	GAB			‡	
49		Guatemala	GTM	*	†		
50		Honduras	HND			‡	
51		Croatia	HRV	*	†	‡	
52		Hungary	HUN		†	‡	
53		Iran	IRN				
54		Iraq	IRQ				
55		Jamaica	JAM				
56		Kazakhstan	KAZ				§
57		Lebanon	LBN				
58		Libyan Arab Jamahiriya	LBY				
59		Sri Lanka	LKA				
60		Lithuania	LTU		†	‡	
60		Latvia	LVA		†	‡	
62		Morocco	MAR				
63		Mexico	MEX		†		§
64		The former Yugoslav Republic of Macedonia	MKD	*	†		
65		Mauritius	MUS		†		
66		Malaysia	MYS				
67		Namibia	NAM				
68		Oman	OMN			‡	
69		Panama	PAN		†		
70		Peru	PER		†		
71		Philippines	PHL				
72		Poland	POL		†	‡	
73		Paraguay	PRY		†		
74		Romania	ROM		†		
75		Russian Federation	RUS	*			§
76		Saudi Arabia	SAU			‡	
77		El Salvador	SLV		†		
78		Serbia / Montenegro	SRB / MNE	*	†		
79		Slovakia	SVK		†	‡	
80		Swaziland	SWZ				
81		Seychelles	SYC			‡	
82		Syrian Arab Republic	SYR				
83		Thailand	THA				§
84		Turkmenistan	TKM				
85		Trinidad and Tobago	TTO		†		
86		Tunisia	TUN				
87		Turkey	TUR				
88		Ukraine	UKR				
89		Uruguay	URY	*	†	‡	
90		Venezuela (Bolivarian Republic of)	VEN		†		§
91		South Africa	ZAF		†	‡	
92	Low-income (C)	Angola	AGO				
93		Azerbaijan	AZE				
94		Burundi	BDI				
95		Benin	BEN				
96		Bangladesh	BGD				
97		Democratic Republic of the Congo	COD				
98		Eritrea	ERI				

99	Low-income (C)	Georgia	GEO		†		
100		Ghana	GHA				
101		Guinea	GIN				
102		Haiti	HTI				
103		Indonesia	IDN				§
104		India	IND				§
105		Kenya	KEN				
106		Kyrgyzstan	KGZ		†		
107		Republic of Moldova	MDA		†		
108		Mali	MLI				
109		Myanmar	MMR				
110		Mongolia	MNG				
111		Mozambique	MOZ				
112		Malawi	MWI				
113		Niger	NER				
114		Nigeria	NGA				§
115		Nicaragua	NIC		†		
116		Nepal	NPL				
117		Pakistan	PAK				
118		Democratic People's Republic of Korea	PRK				
119		Rwanda	RWA				
120		Sudan	SDN				
121		Senegal	SEN				
122		Sierra Leone	SLE				
123		Togo	TGO				
124		Tajikistan	TJK				
125		United Republic of Tanzania	TZA				
126		Uganda	UGA	*			
127		Uzbekistan	UZB		†		
128		Vietnam	VNM				§
129		Yemen	YEM				
130		Zambia	ZMB				
131		Zimbabwe	ZWE	*			§
132	Unclassified	Former Czechoslovakia	N.A.				
133		Former Soviet Union	N.A.				
134		Taiwan	N.A.				
135		Former Yugoslavia	N.A.				

N.A. = not applicable

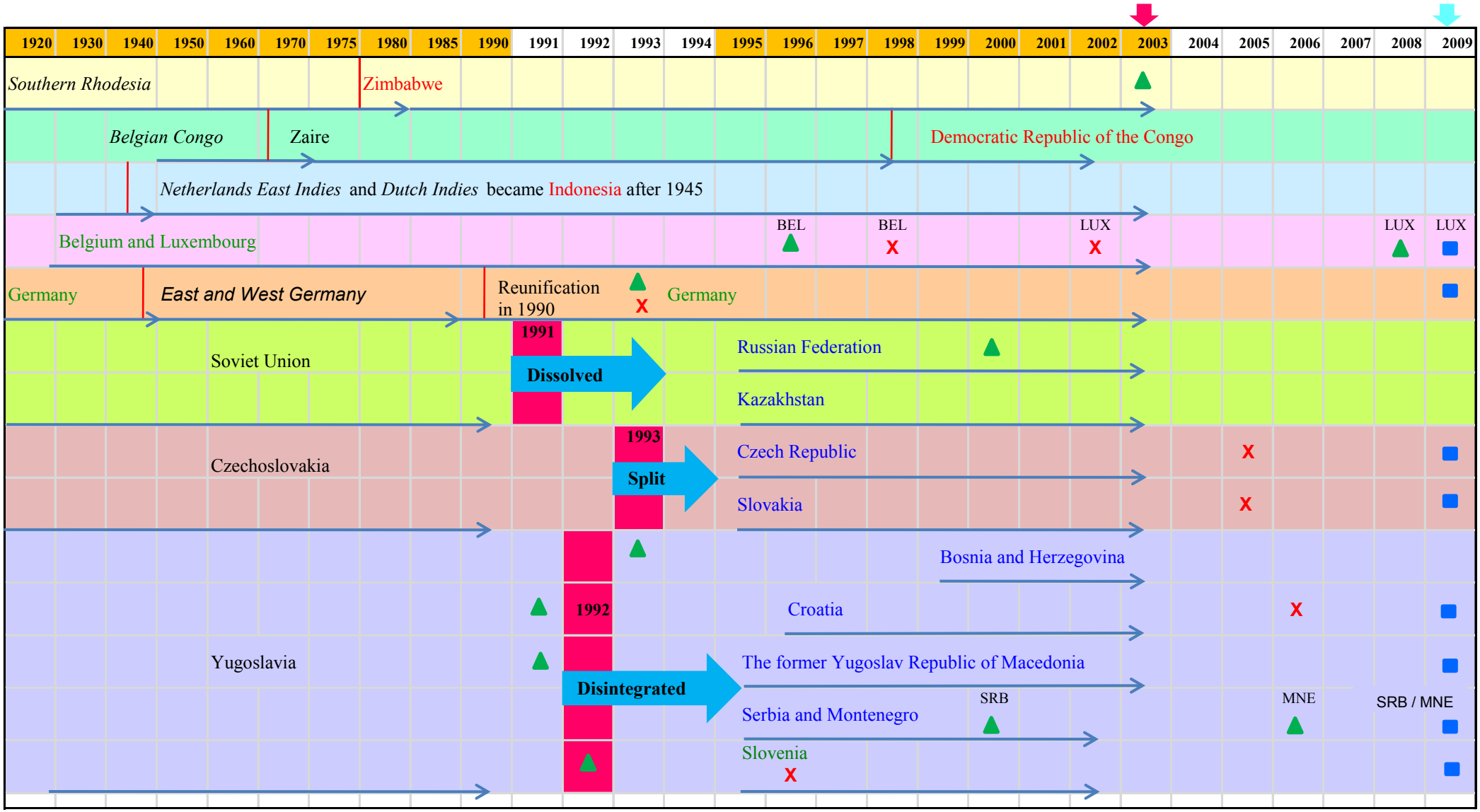
1: Countries ratified ILO Convention (http://www.ilo.org/ilolex/cgi-lex/ratifce.pl?C162).

2: Countries reported mortality to WHO (http://www.who.int/whosis/mort/download/en/index.html).

3: Countries banned asbestos use (http://ibasecretariat.org/lka_alpha_asb_ban_280704.php).

4: Countries selected for presentation in Figure 2. See text for selection criteria.

Status as of February 2009 for ratification, reporting mortality and banning use.



Final year of analyses for asbestos use

Status as of February 2009 for ratification of the ILO Asbestos Convention, reporting mortality to WHO and banning use

Year of asbestos use reported by USGS

Period of asbestos use

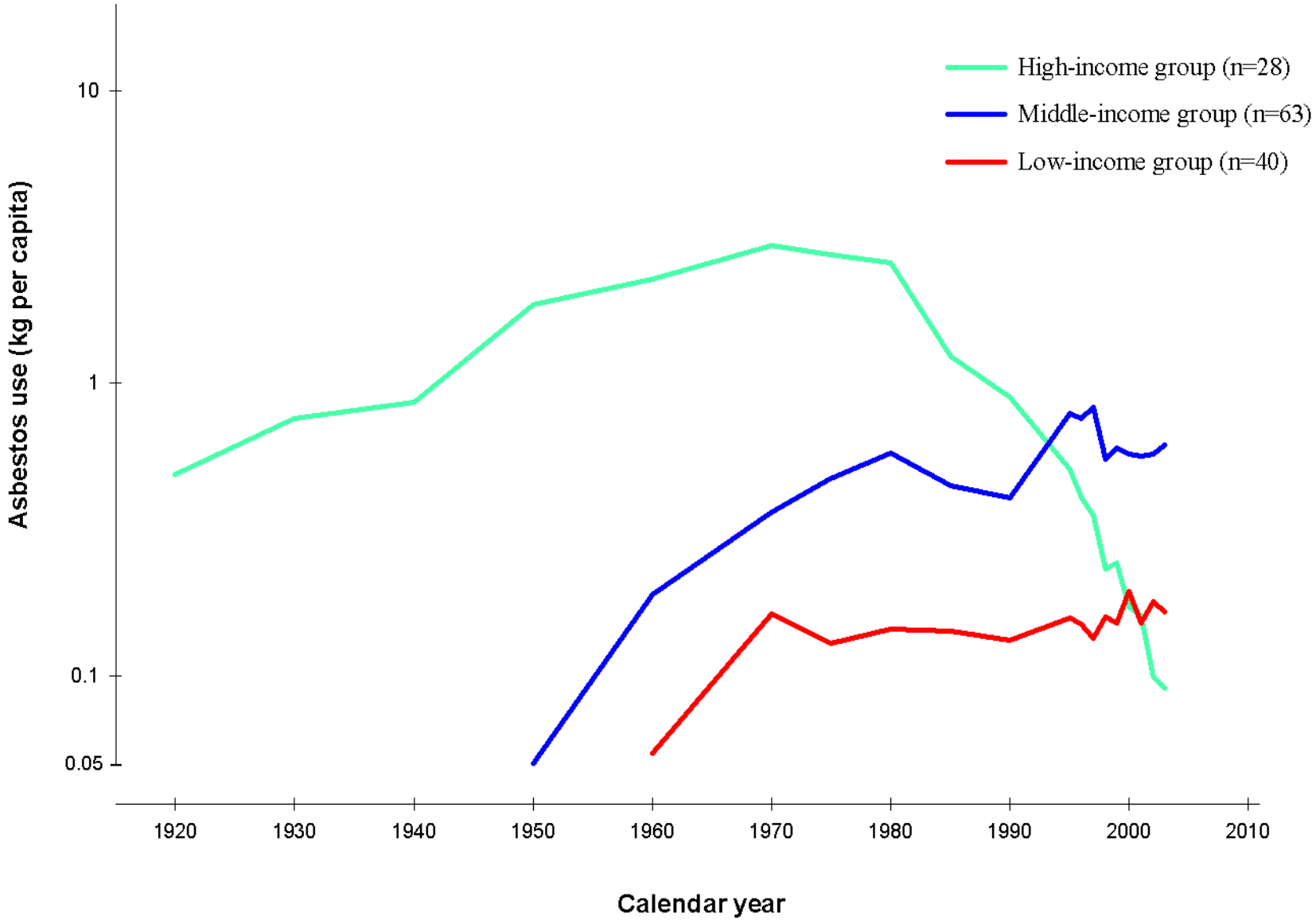
Year of ratification ILO Asbestos Convention

Reporting mortality from malignant neoplasm of pleura and/or mesothelioma to WHO

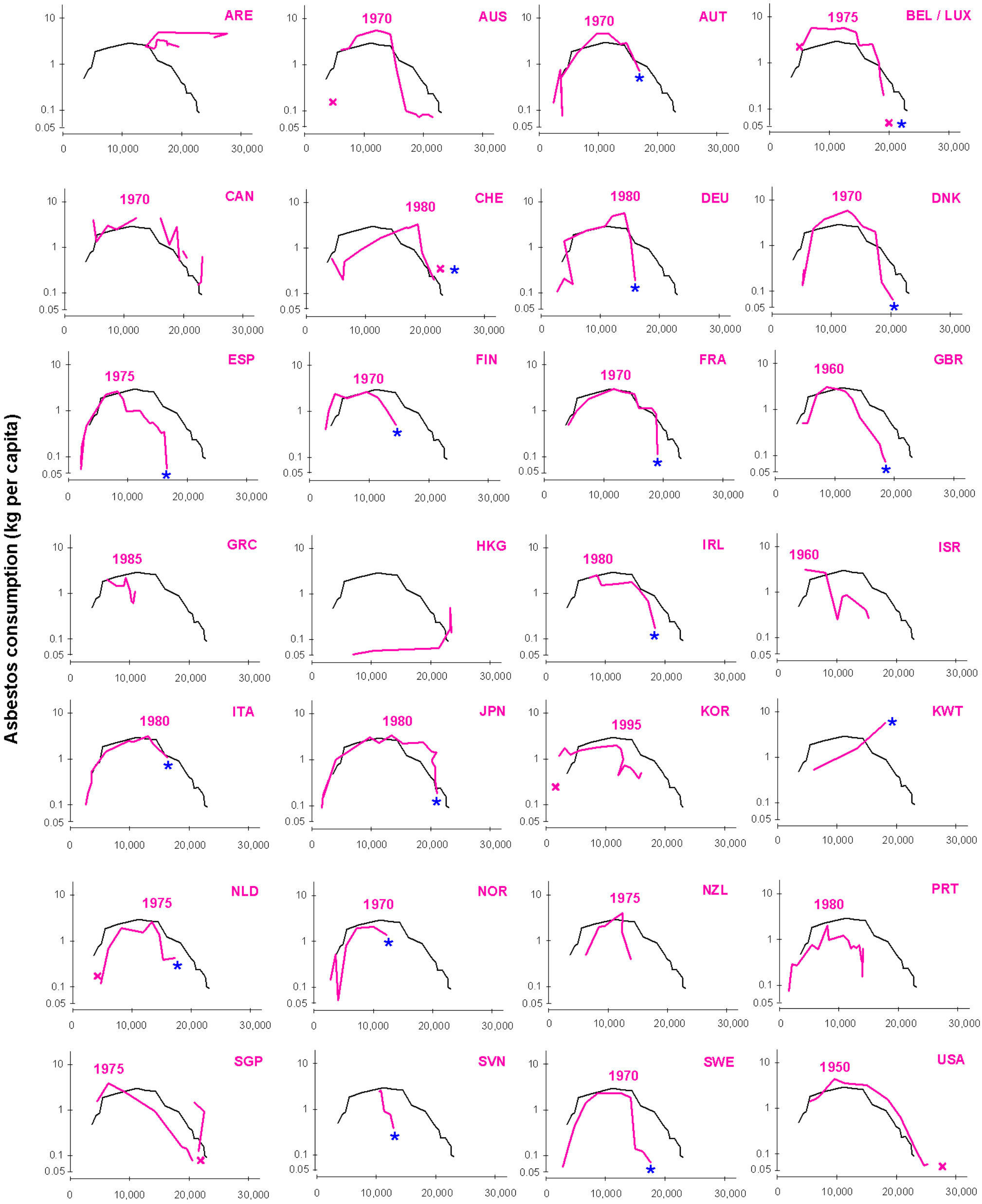
X Year of asbestos ban

Country name is colored: Low-income counties Middle- income countries High-income countries Unclassified countries

Supplemental Material, Diagram 1. Methods on treatment of specific countires

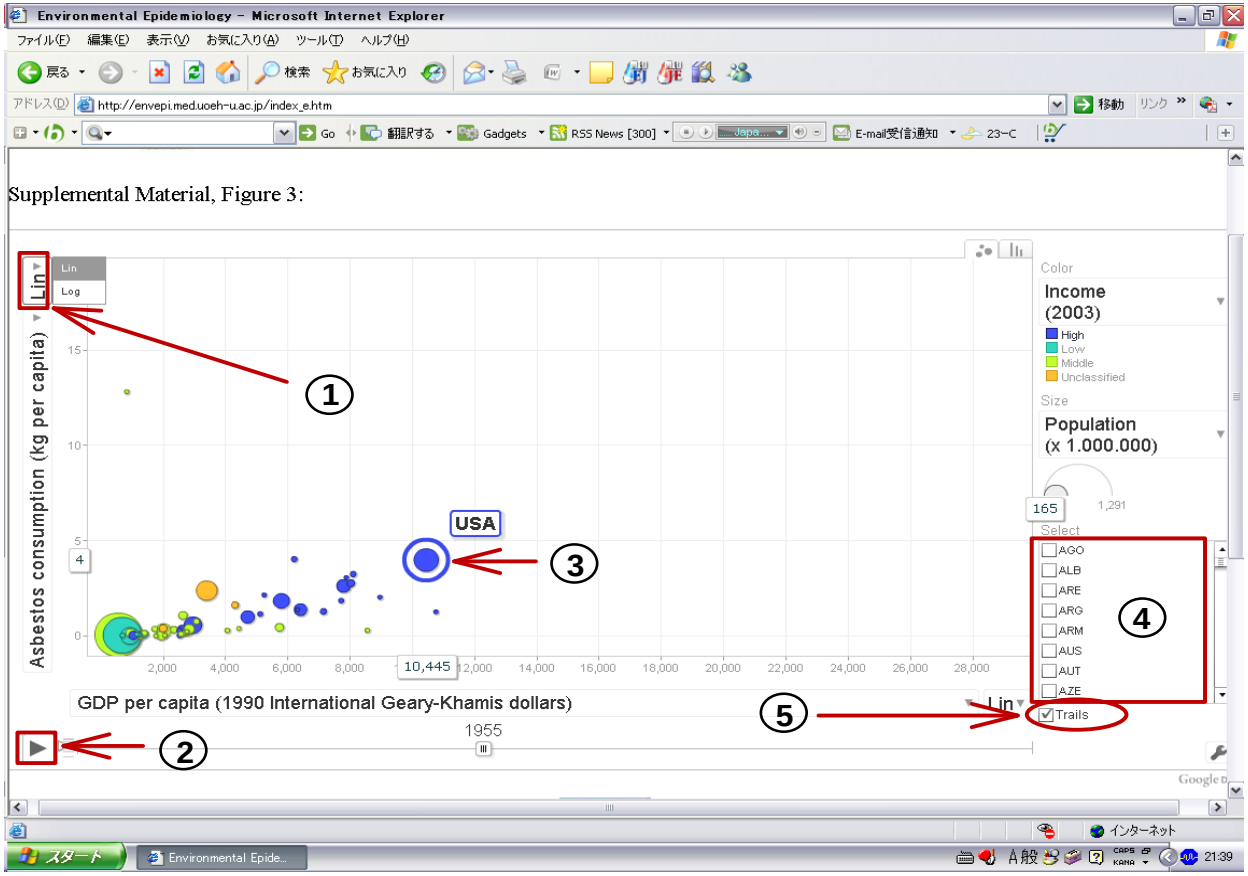


Supplemental Material, Figure 1. Asbestos use vs calendar year



Supplemental Material, Figure 2. Asbestos use vs GDP in high-income countries

Website for application of Motion Chart to the dataset: http://envepi.med.uoeh-u.ac.jp/motionchart.html



- Click the button #1 and choose the log scale
- Click the button #2 to play or pause the motion chart
- Click on any bubble (#3) to see country code
- Click country's names (#4) to label bubble
- Click button #5 to show trajectory of particular bubble

Supplemental Material, Figure 3. Asbestos use vs GDP along common time axis